

KIA · POWERTRAIN

P1794

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1794 · Kia

Battery Or Circuit Failure

P1794 on a Kia means the transmission control module (TCM) has detected a problem with the battery power supply or its associated wiring circuit to the transmission control system. The TCM monitors voltage on its dedicated power feed and sets this code when the voltage falls outside the expected range, indicating a loss of power or a circuit fault rather than an internal transmission failure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Illuminated check engine light or transmission warning light on the dashboard
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Harsh or delayed shifting as the TCM defaults to a limp-home mode
- Transmission stuck in a single gear or refusing to downshift
- Intermittent loss of power or stalling when electrical load is high
- Battery warning light or dimming lights if the underlying issue is a charging system fault

Common causes, most likely first

- 1 Weak or failing battery that cannot maintain stable voltage under load
- 2 Corroded, loose, or damaged battery terminals and ground connections
- 3 Blown fuse or faulty relay in the TCM power supply circuit
- 4 Damaged or chafed wiring harness between the battery, fuse box, and TCM
- 5 Faulty alternator not charging the battery sufficiently, causing low system voltage
- 6 Internal fault in the TCM power supply circuitry, though less common
- 7 Poor ground connection at the transmission or engine block



How to diagnose and fix it

- 1 Perform a battery load test and check resting voltage; replace the battery if it fails
- 2 Inspect and clean battery terminals, ground straps, and engine-to-chassis grounds
- 3 Check the TCM fuse and relay in the under-hood fuse box and replace if blown or faulty
- 4 Measure voltage at the TCM power feed connector with the key on and engine running; compare to battery voltage
- 5 Inspect the wiring harness for chafing, corrosion, or loose connectors between the battery and TCM
- 6 Test the alternator output to confirm charging voltage is within specification
- 7 If all external circuits test good, perform a continuity and resistance test on the TCM ground circuit before condemning the TCM

What most technicians overlook on P1794

- A battery that starts the engine fine can still set P1794 if its internal resistance rises and voltage sags briefly during cranking or under electrical load, so a simple crank test is not enough.
Corroded ground connections on the transmission bell housing or engine block are a frequent culprit that many technicians miss because they focus only on the positive battery cable.
- P1794 does not automatically mean the TCM is bad; replacing the module without verifying power and ground circuits is an expensive misdiagnosis trap.
- Intermittent P1794 codes often appear after battery replacement or jump-starting if the TCM adaptive memory is not reset, so clearing codes and performing a relearn may resolve the light.
A failing alternator diode can introduce AC ripple into the electrical system that disturbs the TCM even when average voltage looks normal on a basic voltmeter.

Can I keep driving with P1794?

You can usually drive the vehicle to a repair shop, but avoid long trips or heavy electrical loads because a failing power supply can cause the transmission to enter limp mode without warning. If the transmission is already shifting harshly or stuck in gear, limit driving to low-speed local roads and arrange service promptly.

Tools that help

- Digital multimeter
- Battery load tester
- OBD-II scan tool with Kia-specific software
- Fuse puller and test light
- Wiring diagram for the TCM power circuit
- Socket set and terminal cleaning brush



Reading P1794

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Kia): its meaning depends on the make.
- 7** Transmission.
- 94** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P0700** Transmission Control System Malfunction · **P0882** TCM Power Input Signal Low · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [How a Rotary Engine Works: Wankel in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1794/>

